

TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION

U.S. DEPARTMENT OF AGRICULTURE . . . FOREST SERVICE

UNIVERSITY FARM ST. PAUL 1, MINNESOTA

No. 402

Snowshoe Hare Damage to a Jack Pine Plantation in Minnesota

Snowshoe hare damage to planted jack pine seedlings has been observed in northern Minnesota for many years, but actual measurements of such damage have not been generally available. Reported here are data gathered in Lake County, Minnesota, on the Superior National Forest.

In 1949 an exclosure (40 x 40 feet)^{1/} was constructed in a jack pine plantation in which 2-0 stock had been set out in the fall of 1948 and replanted with similar stock in the fall of 1949 because of heavy hare damage. All of the seedlings inside the exclosure fence were protected against deer browsing. Half of this exclosure was also hareproofed. In 1950 and again in 1951 all jack pine seedlings in the exclosure and in a comparable unprotected plot adjacent to it were counted and measured for height with the results shown below:

Location	Area	Jack Pine Seedlings					
		On Area		Damage		Average height	
		1950	1951	1950	1951	1950	1951
	<u>Sq. Ft.</u>	<u>Number</u>		<u>Percent</u>		<u>Feet</u>	
Exclosure							
Hareproof	800	17	17	0	0	1.38	1.95
Deerproof	800	22	22	23	27	.70	.87
Control	1600	48	48	46	60	.81	.97

So far deer damage has been minor, but as these results show, hare damage was severe in 1950 and 1951--although none of the seedlings suffered mortality. So far the greatest damage to seedlings has been loss in height. The average height of all trees increased 41 percent in the hareproof section of the exclosure, 24 percent in the section accessible to hares, and 20 percent in the unprotected area. In fact the seedlings protected from hares produced two and a half times more growth per seedling than those accessible to hares in the deerproof section of the exclosure and in the control plot.

^{1/} See Technical Note No. 361 for specifications.

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